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# FHWA's Office of Program Administration: Bringing You the Tools and Technologies You Need

By Dwight Horne

rom contract administration to the use of Federal-aid highway funds to such preconstruction activities as performing value engineering (VE), the Federal Highway Administration's (FHWA) Office of Program Administration provides tools and expert assistance to aid highway agencies and others in successfully carrying out Federal-aid highway programs.

The office's Federal-aid Programs group provides technical assistance in using Federal-aid highway funds, including for such categories as Interstate maintenance and rehabilitation, emergency relief for natural disasters and other catastrophic events, the Appalachian Development Highway System, ferry boat programs, and demonstration projects. The Federal-aid group also assists in developing, analyzing, and interpreting national highway legislation.

Looking at preconstruction, the office develops national policies, standards, criteria, and guides on highway design and provides assistance in such areas as utility accommodations and VE. Achieving greater cooperation between utility companies and transportation agencies can reduce utility-related disruptions, minimize costs, and accelerate construction. For more information and a list of resources, visit the office's Utility Program Web site at www.fhwa.dot.gov/programadmin/utility.html.

VE, meanwhile, focuses on reviewing a planned highway project's features and looking for ways to improve quality, foster innovation, and lower owner costs. To assist States in implementing VE, FHWA provides training and technical assistance, including a 4- to 5-day course for highway agencies. The course offers an overview of the VE process, as well as the opportunity for course participants to split into teams and analyze actual highway projects in their State, using the VE principles that they have learned. For more information on VE activities, see sidebar on page 2.

The office's Preconstruction group also provides support to States as they implement context-sensitive solutions (CSS) for highway projects. With CSS, the goals of ensuring safety and mobility when designing and constructing a road or bridge are enhanced by fully considering measures to preserve environmental, community, scenic, and historic resources. To learn more, visit www.fhwa.dot. gov/csd/index.htm.

The Contract Administration group provides technical assistance and guidance on highway contract provisions, procedures, policies, and requirements, and other contract administration issues. This assistance includes teaching a course on Contract Administration for State highway agencies who request it (see article, page 5). The course is presented an average of 15–20 times a year. Numerous resources are also available on the Contract Administration Web site



Federal Highway Administration

### Program Administration,

continued from page 1

(www.fhwa.dot.gov/programadmin/contracts), including information on FHWA's Buy America program, innovative contracting, and claims avoidance and mitigation.

The Contract Administration group also assists States with the implementation of design-build contracting. The designbuild method assigns both design and construction responsibilities to one firm, allowing some construction work to begin before the design is completed. This compares to the traditional design-bid-build method, where the design and construction aspects of a project are bid separately. In addition to saving time, design-build contracting often reduces a highway agency's administration and inspection costs and can reduce or eliminate change orders and claims resulting from errors and omissions during construction.

Finally, a Stewardship/Oversight group provides expert assistance with major projects, such as the Central Artery/Tunnel project in Boston, Massachusetts, and the multi-modal T-REX initiative in Denver, Colorado. This group also assists with risk assessments and stewardship agreements and is working with FHWA's leadership to develop a corporate risk profile for the Agency.

For more information on the activities of the Office of Program Administration, see the list of contacts in the sidebar or visit www.fhwa.dot.gov/programadmin. As we work to provide the tools and assistance vital to carrying out Federal-aid highway programs, we value our long-standing partnerships with States, industry, and others, and look forward to strengthening those collaborations in the future. Together we can safely and cost-effectively continue to provide the highway system that our Nation and its economy depend upon from coast to coast every day.

Dwight Horne is the Director of FHWA's Office of Program Administration.

# Office of Program Administration Contacts

Federal-aid Programs—Don West, 202-366-4652 (email: donald.west(a fhwa.dot.gov)

Preconstruction—Dwight Horne, 202-366-0494 (email: dwight.horne@hwa.dot.gov)

Contract Administration—Jerry Yakowenko, 202-366-1562 (email: gerald.vakowenko@fhwa.dot.gov)

Stewardship/Oversight—Tom Sorel, 202-366-1561 (email: tom.sorel(\alpha fhwa.dot.gov).

# Value Engineering Update

In 2003, highway agencies saved more than S1 billion by applying VE methods and techniques. As the nationwide use of VE grows, FHWA's VE program continues to provide a range of training and technical assistance to States. This training includes a VE course for highway agencies that presents an overview of the VE process and hands-on case studies involving actual highway projects in the particular State. Upcoming workshops scheduled for this year include ones in New Jersey, North Carolina, and Oklahoma. Arkansas, Hawaii, and Minnesota are also in the process of scheduling workshops.

New initiatives include FHWA's work with the Transportation Research Board on National Cooperative Highway Research Program Project 20-5, Topic 35-04, which will survey transportation agencies in the United States and Canada on their uses of VE. The study will report on current practices and identify key strengths and challenges of VE programs. A report on the findings is due out this fall. FHWA is also drafting a proposal to review and evaluate the results of State VE studies in order to determine the overall effectiveness of VE programs.

States will have the opportunity to learn more about best practices for using VE and to share their own VE experiences at the next AASHTO Value Engineering Conference, to be held July 20–22, 2005, in San Antonio, Texas. For more information, contact Susan McClain at the Texas Department of Transportation, 903–799-1311 (email: smcclain@dot.state.tx.us).

FHWA's VE efforts, meanwhile, are being supported this year by a visiting staff member. Waheed Uddin, Associate Professor of Civil Engineering and Director of the Center for Advanced Infrastructure Technology at the University of Mississippi, will join FHWA's VE program for 3 months starting this spring.

FHWA is also establishing a Lead State Team to assist with the implementation of VE. The team, which is scheduled to meet this summer, will include members from FHWA, State highway agencies, academia, and industry.

To learn more about VE or FHWA's VE workshops, contact Donald Jackson, FHWA's VE Coordinator, at 202-366-4630 (fax: 202-366-3988; email: donald.jackson@fhwa.dot.gov), or visit the FHWA VE Web site at www.fhwa.dot.gov/ve.

# Pavement Preservation Resources Offer "How-To" Guidance

earn more about pavement preservation practices that are working nationwide by consulting the many new resources, ranging from guidance checklists to CDs, available from the Federal Highway Administration (FHWA).

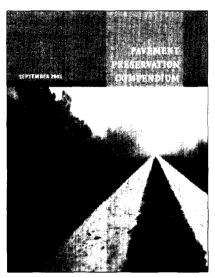
Two new CDs produced by FHWA and the Foundation for Pavement Preservation (FP2) look at pavement preservation in action across the country. The first CD, Pavement Preservation 2: State of the Practice, contains policies, guidance, and technical information from California, Delaware, Michigan, Minnesota, Montana, North Carolina, Ohio, and South Dakota. The CD provides a range of information, from guidelines for statewide preservation programs to examples of innovative funding approaches. Also included are "how-to" technical manuals and details on training courses, videos, fact sheets, and other useful resources.

National Pavement Preservation Forum II: Investing in the Future (Publication No. FHWA-IF-03-019), meanwhile, includes papers and presentations from the 2001 Forum hosted by the California Department of Transportation and FP<sup>2</sup> in San Diego, California. The CD covers such topics as introducing new pavement preservation products and techniques, establishing partnerships, integrating pavement preservation into pavement management systems, and performing education and outreach.



For step-by-step guidance on the use of innovative pavement preventive maintenance processes, turn to FHWA's and FP's series of pavement preservation checklists. Topics in the series to date are:

- Crack Seal Application (Publication No. FHWA-1F-02-005)
- Chip Seal Application (Publication No. FHWA-IF-02-046)
- Thin Hot-Mix Asphalt Overlay (Publication No. FHWA-IF-02-049)
- Fog Seal Application (Publication No. FHWA-IF-03-001)
- Microsurfacing Application (Publication No. FHWA-IF-03-002)
- Joint Sealing of Portland Cement Concrete Pavements (Publication No. FHWA-IF-03-003)



The checklists take users through such steps as project review, material checks, surface preparation, equipment inspections, weather requirements, and common problems and solutions.

For information on the scope of pavement preservation activities underway in States from California to Michigan to North Carolina, consult FHWA's Pavement Preservation Compendium (Publication No. FHWA-IF-03-21), which presents articles, papers, and other reference material on accomplishments to date and future needs. The Compendium also highlights the importance of taking research on innovative and effective system preservation technologies to a higher level. To date, research has lagged behind the demand for knowledge.

To obtain copies of the CDs, checklists, or Compendium, contact Steve Mueller in FHWA's Office of Asset Management, 202-366-1557 (email: steve.mueller/a/fhwa. dot.gov), the National Center for Pavement Preservation at 517-432-8220 (email: hahnp/a/egr.msu.edu), or your local FHWA Division Office. For additional information on pavement preservation, visit the Web sites listed in the sidebar.

### **Pavement Preservation Online Resources**

FHWA—www.fhwa.dot.gov/preservation

Foundation for Pavement Preservation—www.fp2.org

National Center for Pavement Preservation www.pavementpreservation.org

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# Meet the Virtual Tunnel Team

stablished to develop, promote, and advance road tunnel engineering principles, technologies, and maintenance practices in the United States, the Federal Highway Administration's (FHWA) Virtual Team on Road Tunnels (VTRT) is a new expert information source on these challenging structures. Not only are tunnels the most expensive type of transportation structure to build, but they can also present complicated design and construction issues.

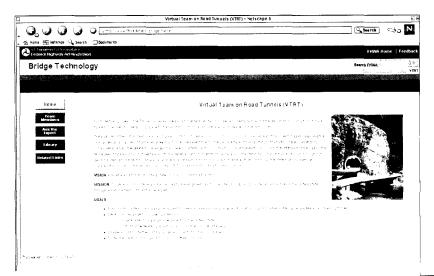
The team includes road tunnel experts from FHWA and State highway agencies. To provide guidance and promote tunnel

knowledge, the team has developed a Web site at www. fhwa.dot.gov/bridge/tunnel. The site features a national database of tunnel research projects and useful tunnel-related publications, including the Highway and Rail Transit Tunnel Inspection Manual and Highway and Rail Transit Tunnel Maintenance and Rehabilitation Manual. Jointly produced by FHWA and the Federal Transit Administration, the manuals outline the

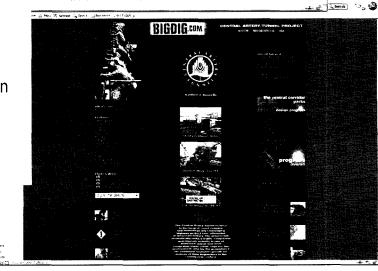
first nationwide tunnel management system, providing guidelines for inspecting, maintaining, and rehabilitating highway and rail transit tunnels. Additional publications available on the Web site include FHWA's Prevention and Control of Highmay Tunnel Fires and Recommendations of the Group of Experts on Safety in Road Tunnels, published by the United Nations Economic and Social Council.

The Web site includes an "Ask the Expert" feature, where visitors can submit inquiries on tunnel-related topics. An archive of all questions submitted to date provides a valuable reference source for tunnel engineers, industry professionals, engineering students, and others.

Visitors can also find links to tunnelrelated Web sites, including ones for the



The Virtual Team on Road Tunnels is a new expert information source on these challenging structures.



The Virtual Team's Web site includes links to other tunnel-related sites, such as one for the Central Artery/Tunnel project in Boston, MA.

Central Artery/Tunnel Project in Boston, Massachusetts, and the Transportation Research Board's A2C04 Committee on Tunnels and Underground Structures.

The team is currently working on preparation of a National Highway Institute training course for tunnel engineering, which will serve as an introduction to procedures and techniques for tunnel design, construction, inspection, and maintenance/rehabilitation.

Beyond providing guidance and information, additional goals of the team include fostering the creation of an American Association of State Highway and Transportation Officials' subcommittee on tunnels.

To learn more about road tunnel engineering or the VTRT, visit www.fhwa. dot.gov/bridge/tunnel or contact Jesus Rohena at 410-962-2542 (email: jesus. rohena@fhwa.dot.gov).

FHWA's Office of Bridge Technology has created virtual teams to provide technical assistance and act as a focal point for current and forthcoming highway bridge and structure initiatives, information, and technical materials. The teams extend FHWA's in-house expertise with a wealth of science and engineering knowledge and experience from State highway agencies, industry, academia, and others.

Additional structural virtual teams that have been established to date include ones for high-performance steel, high-performance concrete (see September 2003 Focus), earthquake engineering, high strength bolts, fiber-reinforced polymers, and segmental concrete bridge technology (see December 2003 Focus). To learn more, visit the following Web sites. Also in the works are teams for cable-stay bridges, load and resistance factor design, accelerated bridge construction, and bridge performance and health monitoring.

Fiber-Reinforced Polymer Composites—www.fhwa.dot. gov/bridge/frp/index.htm

High-Performance Steel—www. fhwa.dot.gov/bridge/hps.htm

High Strength Bolts—www.fhwa. dot.gov/bridge/bolts.htm

Earthquake Engineering www.fhwa.dot.gov/bridge/ seismic/index.htm

High-Performance Concrete knowledge.fhwa.dot.gov/cops/ hpex.nsf/home

Segmental Concrete Bridge Technology—www.fhwa.dot. gov/bridge/segmental

# Your Source for Contract Administration Essentials

o keep up with current

requirements in construc-

tion contract administration, turn to the Federal Highway Administration's (FHWA) Contract Administration Course. The course details FHWA requirements and policies for Federal-aid design and construction contracts. Four broad areas are covered:

- Construction contract provisions, Federal-aid requirements, and the construction policies of the U.S. Department of Labor, including for such categories as prevailing wage rates, safety and accident prevention, and nondiscrimination.
- Construction contract administration issues, such as the competitive bidding process.
- Relevant statutes, regulations, and directives.
- Detection and reporting of suspected fraud.

The 2-day course is typically offered between 15 and 20 times per year, as requested by State highway agen-

cies. "It's been well received across the country," says Jerry Yakowenko of FHWA. "Participants seem to enjoy discussing the case studies, which illustrate the practical application of Federal-aid requirements to real-life situations." For example, the course's fraud detection session looks at specific fraud indicators in the area of costs and mischarging for

materials and labor, product substitution, collusion, questionable documentation, and conflict of interest.

The class is targeted at State and local highway agency personnel who work with Federal-aid construction contracts, as well as FHWA Division Office and Resource Center staff. There is no cost for participants. The hosting agency needs only to provide a meeting place. Recent sessions include ones held in Maine, Rhode Island, and Michigan, with upcoming presentations scheduled for New Hampshire and Wisconsin.

First presented in the late 1980s, the course now includes new information on procurement of intelligent transportation system projects and transportation enhancement—projects; contractural

requirements for emergency relief projects; wrap-up insurance; project labor agreements; and the detection of fraud, waste, and abuse. Also covered are such contracting provisions as the Buy America and Disadvantaged Business Enterprise programs.

You can learn more about the course at www.fhwa.dot.gov/

programadmin/contracts/coretoc.htm, where the course Participant's Manual and Reference Guide is posted. For more information on scheduling the course, contact your local FHWA Division Office or Edwin Okonkwo at FHWA, 202-366-1558 (fax: 202-366-3988; email: edwin.okonkwo/a fhwa.dot.gov).

The Contract
Administration
Course details FHWA
requirements and
policies for
Federal-aid design
and construction
contracts.

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# FHWA Launches Design Guide Team

new Design Guide Implementation Team (DGIT) formed by the Federal Highway Administration (FHWA) has the goal of educating and assisting State highway agencies and their industry partners in the implementation of the forthcoming Mechanistic-Empirical Design Guide for New and Rehabilitated Pavement Structures. Developed under National Cooperative Highway Research Program Project 1-37A, the Design Guide project is scheduled to be completed this month, with subsequent review by the American Association of State Highway and Transportation Officials (AASHTO). The new Guide will provide a uniform basis for the design of flexible, rigid, and composite pavements, using mechanistic-empirical approaches that more realistically characterize inservice pavements and improve the reliability of designs.

# Mechanistic-Empirical Pavement Design Guide Implementation Workshops

May 25, 2004—Biloxi, MS

June 2004—Vancouver, WA

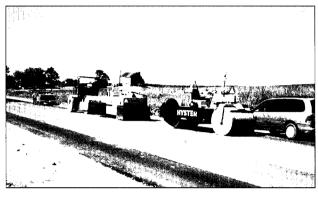
July 15, 2004—Indianapolis, IN

August 2004—Mystic, CT

September 2004—Kansas City, KS

October 2004—Phoenix, AZ

For more information or to register, visit www.fhwa.dot.gov/pavement/dgittime.htm, send an email to DGIT@fhwa.dot.gov, or contact one of the team members listed on this page.



The forthcoming *Mechanistic-Empirical Design Guide* will provide a uniform basis for the design of flexible, rigid, and composite pavements.

To introduce pavement design, material, and traffic engineers from State highway agencies and FHWA to the Guide, the DGIT will hold six workshops this year (see sidebar), starting May 25 in Biloxi, Mississippi. "The workshops will provide an overview of the Guide and show participants how they can get ready to use it," says Katherine Petros of FHWA. The team is also working to set up an online database that will allow States to post comments on the Guide as they review and start to use it. This effort will

support the AASHTO Joint Task Force on Pavements as it seeks evaluations of the Guide. The Web link to the database is scheduled to be up and running this spring.

For more information on the DGIT or the workshops, visit www.fhwa.dot.gov/pavement/dgit.htm or contact one of the team members listed in the sidebar. As additional implementation activities are planned and the forthcoming Guide is finalized and released, *Focus* will provide updates.

### FHWA Design Guide Implementation Team

Katherine Petros, 202-493-3154

Leslie Myers, 202-366-1198

Monte Symons, 404-562-4782

Sam Tyson, 202-366-1326

Timothy Barkley, 404-562-3732

Any of the team members can also be contacted at DGIT@fhwa.dot.gov.

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# Highway Technology Calendar

The following events provide opportunities to learn more about products and technologies for accelerating infrastructure innovations.

# Asphalt Pavement Conference 2004: 21st Century Construction

March 15-16, 2004, Nashville, TN

The conference will feature construction practices that are necessary to building hot-mix asphalt pavements that will last. Session topics will include paying and compaction, contracting practices, and plant operations. The conference is being held in conjunction with the World of Asphalt 2004 Show and Conference. Sponsors include the Asphalt Institute, National Asphalt Pavement Association, State Asphalt Pavement Associations, Tennessee Department of Transportation, American Association of State Highway and Transportation Officials (AASHTO), and the Federal Highway Administration (FHWA).

Contact: For registration information, call 800-355-6635 (fax: 800-979-3365; email: info@worldofasphalt.com) or visit www.worldofasphalt.com.

# Making Work Zones Work Better Workshops

March 24–25, 2004, Fargo, ND April 6–7, 2004, Bangor, MF. April 27, 2004, Sacramento, CA April 29, 2004, Riverside, CA

FHWA, along with State and local partners, is sponsoring this series of workshops to share information on new and emerging technologies and practices for reducing work zone congestion and crashes.

Contact: Carol Keenan at FHWA, 202-366-6993 (email: carol.keenan@fhwa.dot.gov).

### 2004 Concrete Bridge Conference May 17–18, 2004, Charlotte, NC

The focus at this conference will be on high-performance concrete bridges and rapid bridge construction. The event is sponsored by the National Concrete Bridge Council, Portland Cement Association, American Concrete Institute, and FHWA.

Contact: Shri Bhide at the Portland Cement Association, 847-972-9100 (fax: 847-972-9101; email: sbhide(a cement.org; Web: www.nationalconcretebridge.org/cbc).

### First Rubber Modified Asphalt Conference

May 19-20, 2004, Grand Rapids, MI

The conference will provide a forum for discussing the uses of rubber modified asphalt. Topics will include best practices, State and contractor experiences, and environmental considerations. Conference sponsors include the Rubber Pavements Association, Rubber Manufacturers Association, the Rubber Division of the American Chemical Society, and FHWA.

Contact: For registration information, contact WALCOM-Registration Services, 740-524-4123 (fax: 877-848-4123; email: reg@a walcom.com). To learn more about the conference, visit www.rubber.org/meetings/asphalt.htm.

# First International Symposium on the Design and Construction of Long Lasting Asphalt Pavements June 7–9, 2004, Auburn, AL

The symposium will facilitate the exchange of information on materials and mix design, construction issues, quality control/quality assurance, contracting methods, perpetual pavements, and other related topics. Sponsors include the International Society for Asphalt Pavements, the Asphalt Alliance, and FHWA.

Contact: National Center for Asphalt Technology, 334-844-6228 (fax: 334-844-6248; email: taplecp/a eng.auburn. edu; Web: www.neat.us (click on "Upcoming Events")).

## Second National Prefabricated Bridges Workshop

September 8–10, 2004, New Brunswick, NJ

The workshop will look at how the use of prefabricated bridge elements and systems enables bridge owners, designers, and construction contractors to "Get in, Get out, and Stav out." Sessions will cover how prefabricated bridge components can be used to minimize traffic disruption, improve work zone safety, reduce environmental impacts, and improve constructibility while maintaining quality. Various bridge projects featuring prefabrication will also be highlighted. The event is sponsored by FHWA, AASHTO, and the Midwest Transportation Consortium, in cooperation with the University of Missouri-Columbia.

Contact: Charlie Nemmers at the University of Missouri–Columbia, 573-882-0071 (email: nemmersc@missouri.edu), Benjamin Tang at FHWA, 202-366-4592 (email: benjamin.tang@thwa.dot.gov), or Mary Lou Ralls at the Texas Department of Transportation, 512-416-2183 (email: mralls@tot.state.tx.us).

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# **FOCUS**

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FHWA Administrator: Mary E. Peters

Managing Editor: Zachary Ellis Tel: 202-493-3193 (fax: 202-493-3475) zac.ellis@fhwa.dot.gov

Editor: Lisa Pope

Tel: 202-234-7157 (fax: 202-347-6938) lgpope@woodwardcom.com

Federal Highway Administration (HRTS) 6300 Georgetown Pike McLean, VA 22101-2296

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### Send address corrections to:

Woodward Communications 1420 N St., NW, Suite 102 Washington, DC 20005 fax: 202-347-6938

email: lgpope(a woodwardcom.com



### Highway Technology Calendar,

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# Structural Materials Technology: NDE/NDT for Highways and Bridges 2004

September 14-17, 2004, Buffalo, NY

Participants will learn about the state-of-the-art in nondestructive evaluation (NDE) and nondestructive testing (NDT) technologies and their application to highway structures. The event is sponsored by The American Society for Nondestructive Testing, Inc., New York State Department of Transportation (NYSDOT), Transportation Research Board, FHWA, and the Structural Engineering Institute.

Contact: Glenn Washer at FHWA, 202-493-3082 (fax: 202-493-3442; email: glenn.washer@fhwa.dot.gov), or Sreenivas Alampalli at the NYSDOT, 518-457-6827 (email: salampalli@dot.state.ny.us; Web: www.fhwa.dot.gov/bridge/smt.htm).

### Second International Conference on Bridge Maintenance, Safety, and Management

October 19-22, 2004, Kyoto, Japan

The confererence will address all major aspects of bridge maintenance, safety, and management, including assessment and evaluation, bridge management systems, nondestructive testing, rehabilitation, maintenance strategies, and service life prediction. Event sponsors include the International Association for Bridge Maintenance and Safety, Transportation Research Board, FHWA, California Department of Transportation, University of Colorado at Boulder, and the Danish Road Directorate.

*Contact:* For information about the conference, visit iabmas04.kuciv. kyoto-u.ac.jp.

U.S. Department of Transportation

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